

Conditions found.	Nervous.		Integumentary.	Locomotive.	Total.
	Spinal Cord and Nerves.	Special- sense Organs.	Skin.	Bone, Muscles, &c.	
Carcinoma	...	4	12	4	69
Sarcoma	...	4	2	16	32
Benign tumours	...	...	7	9	48
Normal	1	1	3	1	25
Results of simple inflammatory processes	...	1	4	3	63
Bacterial—					
Tubercle	...	...	...	...	5
Plague	...	...	...	...	3
Others	1	...	...	...	2
					247
Received spoiled	...	...	...	...	4
Total	...	...	...	...	251

PLAGUE-OUTBREAK AT AUCKLAND.

Case 1.

On the 16th May we received from Dr. Purdy, District Health Officer, Auckland, the kidney, inflamed gland, and portions of the spleen of a case (K) of suspected plague which had arisen in Auckland. Sections of the kidney showed cloudy swelling and detachment of the epithelium of the tubules. Smears made from the spleen and gland contained very numerous cocco-bacilli, the majority of which showed marked bipolar staining typical of the *Bacillus pestis*. Others were irregular in type, being boat-shaped, oval, or almost round. Many of these did not show bipolar staining, but all were decolorised by Gram's method. Cultures on agar and serum and in broth were made, and a guinea-pig was inoculated with a portion of the spleen-pulp. In twenty hours œdema appeared at the seat of inoculation, in twenty-four hours the animal was extremely ill, and in fifty hours it was dead.

Post-mortem on Guinea-pig (A).—At the *post-mortem* the seat of inoculation showed great thickening and œdema of the tissues, with exudation of blood-stained serum. On the same side the superficial, deep inguinal, and popliteal glands were swollen. There was œdema of the abdominal wall, and hæmorrhage into the muscles. The liver was mottled, and both it and the intestines were intensely congested. Spleen was not greatly enlarged, and showed very little mottling, and none of the usual yellowish spots. Smears from the seat of inoculation, from the swollen glands, and from the liver showed the same bipolar-staining bacilli as were found in the original tissues. The spleen, however, though enlarged, was free from any organismal infection, and none of these bacilli were visible in the heart-blood, although they were obtained from there by culture. The rapid death of the guinea-pig, and the *post-mortem* appearances, show that we had to deal with a very virulent type of organism.

Smears on agar, made direct from the spleen of the patient, developed in twenty-four hours a growth in the form of translucent discs composed of bacilli, which were found to agree microscopically with those found in the tissues and in the guinea-pig, except that the polar staining was less in evidence. This has generally been observed as regards *Bacillus pestis*. After about forty-eight hours the growth usually got whitish grey in the centre, and tended to spread out with thin wavy edges. The consistence was slimy and sticky. Involution forms were very marked, yet in spite of the great variation in appearance they still retained the power of discharging the stain by Gram's method.

Broth cultures were made from the patient's spleen and from blood taken from the heart of the guinea-pig (A). In both a turbid growth occurred in about eighteen hours, which later tended to form a whitish film on the side of the glass, and to deposit a sediment at the bottom. We found too much vibration in this laboratory to be able to demonstrate satisfactorily the stalactite growth, though I was able to demonstrate this in the Auckland laboratory in subcultures from those made from the patient's spleen. On plating out the broth from the patient's spleen, besides the clear colonies of bipolar-staining cocco-bacilli, there were found rapidly growing whitish colonies of a streptococcal-like organism. These were not found in the guinea-pig cultures, and, as they were absent from the cultures made by Drs. Frost and Purdy in Auckland, which I had an